Westlands Water District
3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (209) 224-1523, FAX: (209) 241-6277

ISSUE UPDATE

WESTLANDS' WATER SUPPLY UNCERTAINTY

Westlands Water District, one of the largest and most efficient agricultural water delivery agencies in the nation, has had its Central Valley Project (CVP) water supply substantially reduced in recent years. From 1990 through 1997, Westlands has received a full CVP supply in only one water year, with allocations in the other years ranging from a low of 25 percent (twice) to 90 percent in this current year.

Year-in and year-out, Westlands farmers are faced with unreliable water supplies. In fact, the District's average annual CVP contract supply is now forecasted to be only 65 to 75 percent of the total entitlement of 1,150,000 acre-feet (AF). Why is the District's supply so uncertain? What are District farmers doing to meet their crop water needs? What do water reductions in Westlands mean to consumers and taxpayers?

BACKGROUND

Even with an aggressive water use efficiency program, Westlands' annual water need for all the irrigable acreage in the District is about 1.4 million AF. The District's CVP contract entitlement is 1,150,000 AF, and the safe yield available from groundwater pumping is about 150,000-to-200,000 AF. This total available supply falls about 100,000-to-200,000 AF short of the District's total need. This, despite Westlands farmers' dramatic efforts to maximize irrigation efficiencies and on-farm water use in response to supply cutbacks over the last seven years.

Westlands' CVP deliveries from the San Luis Canal began in 1968. Through 1989, the District received its full contract entitlement. The only reduction in supplies occurred in 1976-77 because of extreme drought conditions. Precipitation returned to normal the following winter and allocations remained at the full contract amount (or more) until 1990.

In many of these years, Westlands was able to purchase -- when available -- additional CVP water, known as "interim water," to boost average annual CVP deliveries to 1.23 million AF during 1979-89.

But in 1990, the picture changed radically. The reduction in supplies and reliability began in 1990 and continues today. Except for the 1995-96 water year -- a very wet year -- Westlands has not received a full annual allocation of CVP water since 1989-90. (See

Westlands' CVP Allocation

Water Year	Water Year Type	Declared Allocation	Acre-Feet
1990/91	Critically dry	50%	575,000
1991/92	Critically dry	25%	287,500
1992/93	Critically dry	25%	287,500
1993/94	Above Normal	50%	575,000
1994/95	Critically dry	35%	402,500
1995/96	Wet	100%	1,150,000
1996/97	Wet	95%	1,092,500
1997/98	Wet	90%	1,035,000

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CVP Allocation table.) In fact, Westlands' 10-year average CVP allocation from 1987-88 to 1996-97 is 69 percent, or 799,414 AF.

The impacts from major water supply reductions are significant and far-reaching. Unlike water agencies with more abundant supplies, Westlands must allocate water to its farmers even in the wettest years. And, in dry years, the cuts in allocations can be severe. In 1991, almost 125,000 acres or 21 percent of the District's gross area were idled. The resulting loss of gross farm income was estimated at $175 million, not including impacts from unemployment and reductions in the local taxes and regional economies.

Water shortages on the farm during the 1990s had adverse impacts to the west side farming community of Mendota. A 1996 study by the California Institute of Rural Studies reported farm and packing wage income dropped $4.8 million, and 360-to-720 farm jobs were cut due to drought-induced changes in crops during a six-year period from 1987-92. Also, retail sales showed a 11 percent drop, and farm land values dropped 30 percent compared to increased farmland values in other areas of Fresno County.

THE PRESENT

Westlands farmers can no longer rely on the CVP for a full water supply, even in wet years. The implementation of the CVP Improvement Act (CVPIA) in 1992 and constraints imposed by the Endangered Species Act (ESA) restrict the ability of the CVP to pump water south of the Delta.

The CVPIA has changed how the CVP is operated and has reallocated over one million AF of CVP water to be used primarily for environmental purposes, including 800,000 AF of Project yield used for fishery benefits, creation of minimum flow requirements on the Trinity River, and over 300,000 AF of additional annual deliveries to refuges. The ESA listings of the winter-run Chinook salmon and Delta smelt as endangered species have further reduced the amount of water that can be exported to farmers south of the Delta.

Although the 1994 Bay-Delta Accord reduced the uncertainty of annual operations and provided some relief from "take" provisions of the ESA, the net result is still an estimated 25-to-35 percent reduction in Westlands' average annual long-term CVP water supply.

SUPPLEMENTAL WATER PURCHASES

The result -- Westlands must now depend on a more diverse water supply to ensure a future for its farmers. Since 1989-90, Westlands and its farmers have purchased over 1.4 million AF of short-term "supplemental" water, including estimates for this water year. A detailed breakdown of Westlands' water supply during the last 10 years is attached to this update.

Westlands acquired these supplies from a variety of sources, mostly from other water agencies south of the Delta. Kern County Water Agency (a State Water Project contractor), Madera and Merced irrigation districts (water rights holders on San Joaquin River tributaries), and other CVP contractors on the Delta-Mendota Canal have been trading partners with Westlands in recent years.

Supplemental water acquired by Westlands is almost always short-term in nature, and is subject to great uncertainty and unpredictability. Supplemental water often is acquired as an exchange with an obligation to return the water in future years, an example being 125,000 AF acquired from Kern County Water Agency in 1997. Delivery schedules often are impacted by limited storage and conveyance capacity in state and federal projects.

Also, supplemental water typically comes at a much higher price than the CVP contract supply. This year, supplemental water costs farmers over $70 per AF, compared to an average contract rate of $33-to-$45 per AF. Supplemental water has been delivered at prices ranging from $45 per AF in 1995 to over $110 per AF in 1994. Because of the potentially higher cost, the District only buys supplemental water if the farmers have committed to pay for it.

In addition to supplemental water purchased by Westlands, individual farmers can transfer water into the District for their own use, using similar sources.

The uncertainty in knowing how much supplemental water to buy is further complicated by the Bureau of Reclamation's piecemeal allocation of CVP supplies in recent years. For example, in each of the last three water years, Westlands farmers did not know what their actual CVP supply would be until well after the start of the water year on March 1. In some cases (like in 1995-96), farmers didn't know their final CVP allocation until mid-June, long after crops have been planted and investments made. Even this year, the CVP allocation announced in February for Westlands was a 100 percent CVP supply. But in April, the allocation was cut to 90 percent.

RESCHEDULED WATER

In many years, Westlands farmers can carry-over a limited amount of CVP water from one water year to the next. The carry-over, or rescheduling, is usually very limited, and like supplemental water, it's very uncertain. The District's ability to reschedule water deliveries and the risk of losing the water depends greatly on reservoir levels in San Luis Reservoir at the end of the water year, and projected dates for refilling the reservoir with water from the new water year.

On paper, it would appear that the rescheduled water is "extra" CVP water that isn't needed by the farmers. However, because of the uncertainty in knowing the final CVP allocation until later in the year and the greater uncertainty in the next year's supply, Westlands and its farmers often acquire enough supplemental water to reduce the uncertainty. The District must take delivery of this supplemental water in the year in which it was acquired. It cannot be rescheduled into the next water year, unlike a limited amount of the CVP allocation which can be rescheduled. Consequently, a portion of the CVP allocation often is preserved and carried over by District farmers into the following year to protect against uncertain water supplies.

OTHER SOURCES

To make up water supplies during critically short years, Westlands also has participated in innovative water management programs. The District initiated a Distribution System Integration Program to offer more flexibility for farmers using groundwater wells. Under the program, farmers who qualify can use District pipelines to convey pumped groundwater to other fields.

The District also has been able to purchase uncontrolled CVP flood-flows (Section 215 water) when available, and water from the State's Drought Water Bank, which operated during the 1991, 1992 and 1994 water years.

In 1991,1992 and 1993, Westlands' supplies were augmented by the CVP with "critical needs" and "hardship" water. This water was provided for public health and safety, as well as to sustain permanent crops from permanent damage.

CONCLUSION

The CVPIA, ESA and other federal regulations significantly reduced the quantity and reliability of Westlands' CVP contract supply. The1994 Bay-Delta Accord improved this reliability somewhat, but long-term supply estimates remain below Westlands' full CVP contract entitlement and will not sustain the needs of its farmers.

Until long-term water supply reliability is restored, Westlands and its customers are "getting by" by pursuing innovative transfers, continually improving irrigation practices, and even pursuing land acquisition both inside and outside the District to stabilize its water supply. The future is uncertain. The CALFED Bay-Delta Program, aimed at developing alternatives to fix the Delta and restore water supplies to sustainable levels, is our hope.

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Westlands Water District
Water Supply History
1987-88 through 1996-97 and 1997-98 Preliminary

Contract Year	Declared Allocation	CVP Contract Allocation (af)	CVP Contract Rescheduled	Interim Water	'215' Water	Other Non-Contract Supplies	Groundwater Conveyed For Farmers	Total Available Supply	Less CVP Rescheduled	Other Resch.	Less Turnback or Loss	Other Adj	Total Delivered
1997-98 (est)	90.00%	1,035,000	116,264	0	0	338,607	0	1,489,871	(150,000)	0	0	14,013	1,353,884
1996-97	95.00%	1,092,500	80,528	0	0	264,142	0	1,437,170	(116,264)	0	(61,829)	1,420	1,260,497
1995-96	100.00%	1,150,000	44,988	0	15,073	138,428	0	1,348,489	(80,528)	0	(92,741)	26,086	1,201,306
1994-95	35.00%	488,878	14,391	0	0	146,368	103,123	752,760	(44,988)	0	0	18,256	726,028
1993-94	50.00%	617,391	85,508	0	0	231,441	85,972	1,020,312	(14,391)	0	(5,675)	3,590	1,003,836
1992-93	25.00%	305,072	67,439	0	0	124,143	115,572	612,226	(85,508)	(73,249)	(5,086)	19,341	467,724
1991-92	25.00%	315,298	19,492	0	0	88,447	69,312	492,549	(67,439)	(30,136)	(7,549)	11,895	399,320
1990-91	50.00%	575,000	97,436	0	0	18,502	22,055	712,993	(19,492)	(26,722)	(1,026)	(2,223)	663,530
1989-90	100.00%	1,150,000	0	0	0	108,599	2,118	1,260,717	(97,436)	0	(17,195)	11,480	1,157,566
1988-89	100.00%	1,150,000	0	65,000	0	15,959	0	1,230,959	0	0	0	24,410	1,255,369
1987-88	100.00%	1,150,000	0	183,810	4,662	6,069	0	1,344,541	0	0	0	0	1,344,541
10 year total		7,994,139	409,782	248,810	19,735	1,142,098	398,152	10,212,716	(526,046)		(191,101)	114,255	9,479,717
10 year avg	69.51%	799,414	40,978	24,881	1,974	114,210	39,815	1,021,272	(52,605)		(19,110)	11,428	947,972

LEGEND

Declared Allocation	amounts allocated to federal ag exporters under CVP contracts
CVP Contract Allocation	also includes critical needs and hardship water for contract years 1991-92, 1992-93, 1993-94, and 1994-95 as protection for permanent crops and M&I customers
Interim Water	additional CVP water under paragraph 8 of the District's 1963 water service contract available when other CVP contractors did not take delivery of full contract allocation
'215' Water	uncontrolled, unstorable federal project flood flows purchased under separate temporary contract
Other Non-Contract Supplies	transfers and supplemental water purchased by the District and its farmers
Groundwater conveyed	landowners' groundwater conveyed through District facilities
CVP Rescheduled	Allocated CVP contract supplies carried over into following contract year
Other Rescheduled	Other non-CVP supplies carried over into following year as a result of exchanges with other contractors or storage in State Water Project share of San Luis Reservoir
Turnback or Loss	*undelivered supplies*
Other Adjustments	system gain(loss); M&I deliveries; groundwater pumpins;
Total Delivered	total metered deliveries to District farmers

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